

Claims

1. A device for providing anti-reflux comprising:
at least one part providing a valve seat, and
a valve element defining an outer contour formed from a sheet-shaped material
5 blank, said valve element including at least one connecting portion and a flap
portion and defining a longitudinal direction extending between the connecting
portion and the flap portion, and
retaining means for retaining the valve element with respect to the device, said
retaining means being integral with the device,
10 c h a r a c t e r i z e d in that
the connecting portion includes engagement means formed integrally with the
valve element for engagement with said retaining means, the valve element pro-
jecting a coherent plane.
- 15 2. A device according to claim 1, for providing anti-reflux in a body fluid drainage
and/or sampling system.
3. A device according to any of the preceding claims, wherein the engagement
means include at least one incision in said outer contour, said at least one inci-
20 sion extending substantially transverse with respect to said longitudinal direction,
said at least one incision being at the transition between the flap portion and the
connecting portion.
4. A device according to claim 3, including two incisions.
- 25 5. A device as claimed in claims 3 or 4, in which said engagement means include
a hook-shaped section positioned outwards of said at least one incision with re-
spect to said longitudinal direction.
- 30 6. A device according to any of the preceding claims, in which said outer contour
forms a curve defining a continuously advancing function on a respective side of
the longitudinal direction.

7. A device as claimed in any of the preceding claims, in which said engagement means are formed within said outer contour.
- 5 8. A device as claimed in claim 7, in which said engagement means are provided as at least one slit in the sheet-shaped material.
9. A device according to any of claims 1-6, wherein said engagement means are formed integrally in said outer contour.
- 10 10. A device as claimed in any one of claims 2-9, in which the body fluid is urine.
11. A device as claimed in claim 10, wherein said valve seat providing part constitutes a connector for connection with a urinary catheter, forms part of a hose in
15 said system or of a sample port device.
12. A valve element including at least one connecting portion and a flap portion and defining a longitudinal direction extending between the connecting portion and the flap portion, and with engagement means integrally formed in the valve
20 element,
c h a r a c t e r i z e d in that
the valve element including the engagement means is manufactured by cutting along a closed line in a sheet-shaped material blank.
- 25 13. A method of manufacturing a device for providing anti-reflux in a body fluid drainage and/or sampling system, comprising the following steps:
providing at least one part including a valve seat,
forming a valve element defining an outer contour from a sheet-shaped material blank, said valve element including at least one connecting portion and a flap
30 portion,
providing retaining means integral with the device, and
bringing the connecting portion into engagement with the retaining means,

characterized in that
engagement means are formed integrally with the valve element, the valve element projecting a coherent plane.

- 5 14. A method of manufacturing a valve element having a connection portion, a flap portion, and engagement means integrally in the valve element comprising the step of
cutting the valve element and the engagement means along one closed line in a sheet-shaped material blank.
- 10 15. A method of manufacturing a valve element having a connection portion, a flap portion, and engagement means integrally in the valve element comprising the step of
cutting the valve element along one closed line in a sheet-shaped material blank;
15 and cutting at least one slit in the sheet-shaped material leaving no waste material.
- 20 16. A method as claimed in claim 13, in which said outer contour is formed along a curve defining a continuously advancing function on a respective side of the longitudinal direction.
- 25 17. A method as claimed in any one of claims 13 to 16, in which said outer contour is provided by a cutting operation such as punching, stamping or die-cutting.
- 30 18. A method as claimed in claim 17, in which the cutting operation is performed in a rolling operation.
19. A method as claimed in any one of claims 13, 16, 17 or 18, in which said outer contour is provided by cutting by means of laser, water etc.
20. Use of a device according to any of claims 1-11, in a body fluid drainage system.

21. Use of a device according to any of claims 1-11, in a body fluid sampling system.

- 5 22. Use of a device according to any of claims 1-11, in a body fluid drainage and sampling system.